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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/663,106

09/16/2003

Amos E. Cline

02-026

1814

24124

7590

04/17/2006

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EXAMINER

CHORBAJI, MONZER R

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,106

Applicant(s)

CLINE, AMOS E.

Examiner

MONZER R. CHORBAJI

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/16/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

This general action is in response to the application filing date of 09/16/2003

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "flow partition" recited in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claim 3 recites the limitation "said assembly fitting" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Branson (U.S.P.N. 3,222,221).

With respect to claim 1, the Branson reference discloses an acoustic energy device (figure 1:22 and col.3, lines 69-74) having the following: a housing (figure 1:10) with an inner diameter (length of distance from wall 33 to unlabeled opposite wall of tank 10 in figure 1), a first housing end (figure 1:33 and 14) with an inlet orifice, a second housing end with an outlet orifice (figure 1:16 and unlabeled wall of 10), an expanded flow area (inner space of tank 10 occupied by fluid 12 between inlet 14 and outlet 16) and oscillatory means assembled within the expanded flow area (figure 1:22).

With respect to claims 7-11, the Branson reference teaches the following: an inherent oscillatory circuit for the acoustic device to operate, pair of first and second piezoelectric members (figure 1:22) that are necessarily connected to the oscillatory circuit so that sonic energy is generated, the flow of the liquid through the expanded

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flow area (inner space of tank 10 occupied by fluid 12 between inlet 14 and outlet 16) is capable of causing the piezoelectric members to vibrate, the acoustic waves emanating from the piezoelectric members (figure 2:22 and imaginary longitudinal axis from one end of the tank to the other) inherently travel in a direction transverse to the longitudinal axis of the tank, flow partition disposed between the piezoelectric members (figure 2:15, 17 and 22) and is capable of extending in a direction parallel to the longitudinal axis of the tank, the first piezoelectric member is necessarily connected to the oscillatory circuit for the acoustic device to operate, a pulse generator (col.3, lines 71-72) and the use of multiple pairs of piezoelectric members (figure 2:22).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Branson (U.S.P.N. 3,222,221) as applied to claim 1 and further in view of Hall (U.S.P.N. 4,428,757).

With respect to claims 2-5, the Branson reference discloses a housing having longitudinal axis extending from a center point of the first housing end to a center point of the second housing end (imaginary line through the center of the tank 10 in figure 1 from end wall 33 to opposite unlabeled end wall having outlet 16) and a baffle having one opening (unlabeled space between walls 15 and 17 in figure 1); however, the Branson reference fails to teach plurality of baffles having through-holes such that the outer perimeter of the baffle corresponds with the inner diameter of the housing and the use of a spacer. The Hall reference teaches plurality of baffles (figure 6:142) having through-holes such that the outer perimeter of the baffle corresponds with the inner diameter of the housing (in figure 6, the unlabeled outer perimeter of the baffles correspond with the inner wall of column 140) and the use of a spacer (unlabeled spaces between baffles in figure 6 along the inner wall of column 140). So, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place baffles with multiple openings into the housing of the Branson reference as taught by the Hall reference so that under total electric failure conditions aeration and degassing of liquids still continuous (Hall reference, col.4, lines 45-68 and col.5, lines 1-4).

With respect to claim 6, the Branson reference discloses a seal cap (figure 1:33) with assembly fitting over the first end (unlabeled fitting into the end wall 33 into which

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inlet pipe 14 is capable of being inserted) of the housing (figure 1:10) and a nipple insert (inlet pipe 14 in figure 1 is capable of being inserted into the unlabeled fitting into the end wall 33 of tank 10). However, the Branson reference fails to explicitly teach the use of o-ring. The Hall reference teaches placing rubber gaskets (i.e., o-rings) between cylindrical high frequency sonic transducer housing (col.2, lines 35-38). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place rubber o-rings on the sonic housing of the Branson reference as taught by the Hall reference so that the rubber material dampens the vibrations within the housing generated by the piezoelectric transducers of the Branson reference.

Conclusion


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Weaver (U.S.P.N. 2,163,650) reference, the Marelli (U.S.P.N. 6,538,041) reference, the Henry (U.S.P.N. 2,828,231) reference and the Rosenthal (U.S.P.N. 2,453,595) reference all teach a source of ultrasonic means within fluid containers.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 9:00-5:30.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLADYS J. CORCORAN can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monzer R. Chorbaji 
Patent Examiner
AU 1744
04/12/2006


GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER